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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/976,210	10/11/2001	Victor F. Petrenko	393551	1402
7590	08/04/2005		EXAMINER	
Thomas Swenson Lathrop & Gage L.C. Suite 302 4845 Pearl East Circle Boulder, CO 80301			VAN, QUANG T	
			ART UNIT	PAPER NUMBER
			3742	

DATE MAILED: 08/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/976,210

Applicant(s)

PETRENKO, VICTOR F.

Examiner

Quang T. Van

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in-condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5-9, 12-16 and 18-21 is/are rejected.
- 7) ☒ Claim(s) 4, 10, 11 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuan et al (US 6,825,444) in view of Polny, Jr. (US 5,571,550). Tuan discloses, figure 10, a heated bridge deck system comprising a first electrode (24) embedded into or coated onto an object to be protected from ice formation, a second electrode (26), the first electrode (24) and the second electrode (26) defining an interelectrode space (figure 10) between the first electrode (24) and the second electrode (26), the first electrode and the second electrode defining an interelectrode distance (D) that separates the first electrode and the second electrode, an AC power source (col. 14, lines 11-15) for providing an AC voltage across the first and second electrodes, wherein the interfacial ice is melted upon application of the AC voltage. However, Tuan does not disclose an AC power source having a frequency greater than 1000Hz and less than 300KHz. Polny discloses an AC power source having a frequency greater than 1000Hz and less than 300KHz (col. 12, lines 35-45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Tuan a frequency greater than 1000Hz and less than 300KHz as taught by Polny in order to limit the heat apply to the heated object.

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3. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuan et al (US 6,825,444) in view of Polny, Jr. (US 5,571,550) and further in view of Zieve (US 4,895,322) cited in previous Office Action. Tuan/Polny disclose substantially all features of the claimed invention except the AC power source provides an AC voltage in range of about from 10 volts to 500 volts. Zieve discloses an AC power source provides an AC voltage in range of about from 10 volts to 500 volts (col. 4, lines 10-12). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Tuan/Polny an AC power source provides an AC voltage in range of about from 10 volts to 500 volts as taught by Zieve in order to provide sufficient power for deicing system.

4. Claims 3, 6, 12-13, 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuan et al (US 6,825,444) in view of Polny, Jr. (US 5,571,550) and further in view of Bird (US 4,732,351) both cited in previous Office Action. Tuan/Polny disclose substantially all features of the claimed invention except an electrical insulator located in the interelectrode space. Bird discloses an electrical insulator (12) located in the interelectrode space (Fig. 3, between electrodes 34 and 36). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Tuan/Polny an electrical insulator located in the interelectrode space as taught by Bird in order to maintain the potential different between the electrodes.

5. Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuan et al (US 6,825,444) in view of Polny, Jr. (US 5,571,550) and further in view of Weinstein (US 6,239,601) cited in previous Office Action. Tuan/Polny disclose

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substantially all features of the claimed invention except the interelectrode distance has a value in a range of about from 50 pm to 500 pm. Weinstein discloses an interelectrode distance has a value in a range of about from 50 pm to 500 pm (col. 4, lines 10-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Tuan/Polny an interelectrode distance has a value in a range of about from 50 pm to 500 pm as taught by Weinstein in order to control the applying voltage. With regard to claims 8 and 9, It would have been obvious to one having ordinary skill in the art to modify the interelectrode distance has a value less than 50 pm or has a value greater than 500 pm. Doing so would control the applying voltage, since the less value for the less applying voltage and the more value for the greater applying voltage.

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuan et al (US 6,825,444) in view of Weinstein (US 6,239,601). Tuan discloses substantially all features of the claimed invention except the interelectrode distance has a value in a range of about from 50 pm to 500 pm. Weinstein discloses an interelectrode distance has a value in a range of about from 50 pm to 500 pm (col. 4, lines 10-13). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Tuan an interelectrode distance has a value in a range of about from 50 pm to 500 pm as taught by Weinstein in order to control the applying voltage.

7. Claims 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tuan et al (US 6,825,444) in view of Weinstein (US 6,239,601) and further in view of Polny, Jr. (US 5,571,550). Tuan/Weinstein disclose substantially all features of the

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claimed invention except an AC power source having a frequency greater than 1000Hz and less than 300KHz. Polny discloses an AC power source having a frequency greater than 1000Hz and less than 300KHz (col. 12, lines 35-45). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Tuan/Weinstein a frequency greater than 1000Hz and less than 300KHz as taught by Polny in order to limit the heat apply to the heated object.

8. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Tuan et al (US 6,825,444) in view of Weinstein (US 6,239,601) and further in view of Zieve (US 4,895,322). Tuan/Weinstein disclose substantially all features of the claimed invention except the AC power source provides an AC voltage in range of about from 10 volts to 500 volts. Zieve discloses an AC power source provides an AC voltage in range of about from 10 volts to 500 volts (col. 4, lines 10-12). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize in Tuan/Weinstein an AC power source provides an AC voltage in range of about from 10 volts to 500 volts as taught by Zieve in order to provide sufficient power for deicing system.

9. Claims 4, 10, 11, and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record does not show or suggest the insulator comprises a nonconductive rubber windshield wiper blade as recited in claim 4, the first electrode

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and second electrode comprise a layer of conductive glass as recited in claims 10-11 and the second electrode comprises a conductive rubber windshield wiper blade as recited in claim 17.

Response to Amendment

11. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Quang T. Van whose telephone number is 571-272-4789. The examiner can normally be reached on 8:00Am 7:00Pm M-Th.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robin Evans can be reached on 571-272-4777. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



QV

July 27, 2005



Quang T Van
Primary Examiner
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